
Operating Systems

Organisational

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Distributed and Ubiquitous Systems
Technische Universität Braunschweig

November 7, 2010

Overview and Structure

- Introduction to operating systems
 - History
 - Architectures
- Processes
 - Processes, threads and interprocess communication
 - Process scheduling and deadlocks
- Memory management
 - Paging
 - Segmentation
- Filesystems
- Security and Protection
- Distributed systems
- Cryptography

Outline

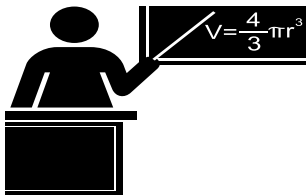
Organisational

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- 3 Organisation
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Objectives

Lernziele

- Acquire basic knowledge about operating systems
 - Structure and functional principle
 - Algorithms and implementation
- Comprehension of processes in a computer system
- Stir interest for operating systems
- Obtain sufficient knowledge to successfully pass the examination



Requirements and lecture material

Voraussetzungen und Vorlesungsunterlagen

Requirements to successfully complete the lecture :

- Interest
- Ability to work self-employed but in teams
- Solve and understand all exercises provided
- Ask !!! when you do not understand something
 - In the lecture
 - In the exercise
 - Via Email

Material :

- <http://www.ibr.cs.tu-bs.de/courses/ws1011/bs/>
 - Lecture slides
 - Exercises
 - Additional information

Organisation

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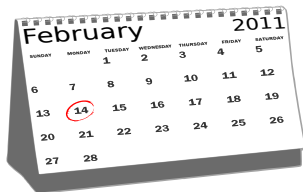
Lecture : Tuesday, 9:45 - 11:15

Exercises : Tuesday, 8:00 - 9:30

- Every two weeks
- First exercise on November, 16th, 2010

Examination : 14.02.2011, 11:00 - 12:30

- SN 19.1 and PK 2.1



Organisation

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| Vorlesung | Übung | Klausur | Raum | Thema | Material |
|-----------------------------|---------------------------|---------------------------|--------------------|--|-------------------------------------|
| 26.10.2010; 09:45 - 11:15 | | | PK 2.2 | | Organisation, allgemeine Einführung |
| 02.11.2010; 09:45 - 11:15 | | | PK 2.2 | | Einführung |
| 09.11.2010; 09:45 - 11:15 | | | PK 2.2 | | Prozesse |
| | 16.11.2010; 08:00 - 09:30 | | PK 2.2 | Speicher-Architekturen und Pipelining | Übungsblatt 1 |
| 16.11.2010; 09:45 - 11:15 | | | PK 2.2 | | Prozesse |
| 23.11.2010; 09:45 - 11:15 | | | PK 2.2 | | Prozesse |
| | 30.11.2010; 08:00 - 09:30 | | PK 2.2 | Prozesse | Übungsblatt 2 |
| 30.11.2010; 09:45 - 11:15 | | | PK 2.2 | | Prozesse |
| 07.12.2010; 09:45 - 11:15 | | | PK 2.2 | | IO |
| 14.12.2010; Keine Vorlesung | | | Keine Vorlesung | Keine Vorlesung | |
| 04.01.2011; Keine Vorlesung | | | Keine Vorlesung | Keine Vorlesung | |
| 11.01.2011; Keine Vorlesung | | | Keine Vorlesung | Keine Vorlesung | |
| 18.01.2011; Keine Vorlesung | | | Keine Vorlesung | Keine Vorlesung | |
| | 25.01.2011; 08:00 - 09:30 | | PK 2.2 | Synchronisation und Speicherallocation | Übungsblatt 3 |
| 25.01.2011; 09:45 - 11:15 | | | PK 2.2 | | IO |
| 01.02.2011; 09:45 - 11:15 | | | PK 2.2 | | Dateisysteme |
| | 08.02.2011; 08:00 - 09:30 | | PK 2.2 | Speicherzuweisung und Repetitorium | Übungsblatt 4 |
| 08.02.2011; 09:45 - 11:15 | | | PK 2.2 | | Zusammenfassung |
| | | 14.02.2010; 11:00 - 12:30 | SN 19.1 und PK 2.1 | Klausur Betriebssysteme | |

Organisation

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Participate !

- Participation during lecture and exercises to improve comprehension
- Opportunities:
 - Interactive lecture and exercise: Participate!
 - Solve the exercises in advance
 - (you will understand the problems better and detect things that you did not understand)
 - Present your solution
 - Present a short Wrap-Up (ca. 5 min.) of the last lecture
 - Participate in the summary of the current lecture (at the end of the lecture)

Literature

Recommended literature

- A. Tanenbaum, Moderne Betriebssysteme, 2nd edition, Prentice Hall, 2009.
- A. Tanenbaum, Modern operating systems, 3rd edition, Prentice Hall, 2008.
- A. Silberschatz et al. Operating system concepts, Wiley, 2004.
- W. Stallings, Operating systems, 6th edition, Prentice Hall, 2008.

